

Actuarial Notes

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Longevity of Railroad Retirement Beneficiaries

Calculations of the life expectancies of railroad retirement beneficiaries have recently been made from studies of data compiled for the Twenty-First Actuarial Valuation of the railroad retirement system, which was made as of December 31, 1998. These studies have been conducted for male and female age annuitants, disability annuitants, spouses and widows. Comparisons with studies done for the nineteenth and twentieth valuations show a general improvement in life expectancies for age and disability annuitants. Other major results of the studies are contained in the following discussion and the two attached tables.

Life expectancies may help provide an indication of the amount that will be paid out in benefits in individual situations, since a benefit is generally payable until the individual beneficiary dies. In the case of spouses and widows, another event, such as death of the employee or remarriage of the widow, may terminate all or a portion of the benefit.

Table 1 illustrates the differences in longevity among the categories of railroad retirement beneficiaries and also shows life expectancy figures for the total U.S. population. The figures for railroad retirement beneficiaries show age and disability retirements separately, while those for the U.S. population do not segregate disabled lives.

As indicated in table 1, a male railroad worker retiring at age 65 may expect, on the average, to receive his annuity for 15.8 years or approximately 190 months; while one retiring at age 62 may expect to receive his annuity for 18.2 years or approximately 218 months. At age 65, female railroad retirement age annuitants have a life expectancy of 19.6 years, which is 3.8 years longer than males at the same age. Females at age 65 in the U.S. population as a whole live 3.3 years longer on the average than males. While a female age annuitant or spouse at age 65 may expect to live about 19.6 and 19.9 years, respectively, a widow at the same age is expected to live 18.3 years. One reason for the difference in longevity may be that a widow's life expectancy is affected by a change in financial and social position and the intangible effect of bereavement brought on by the husband's death.

Life expectancies for disability beneficiaries are shown below. Both those disabled from performing their regular occupation and those totally disabled from performing any occupation are included. Total disabilities are those which meet the more restrictive disability standards of social security.

Life expectancies^a at selected ages for railroad disability annuitants at retirement and 5 or more years after retirement

<u>Age^b</u>	<u>At retirement</u>	<u>5 or more years after retirement</u>
45 ^c	24.9	25.5
50	21.4	21.9
55	17.4	18.4
60	15.0	15.0
65		12.2
70		9.7
75		7.6
80		5.8

^a Based on experience between 1994 and 1997 anniversaries of retirement.

^b Age nearest birthday.

^c Data not statistically significant.

This table indicates that the life expectancy of a person newly disabled is somewhat lower than that of a person disabled a number of years earlier. At age 55, for example, a recently disabled person may expect to live 17.4 years on average, while one disabled 5 or more years ago has a life expectancy of 18.4 years.

The data used to calculate life expectancy figures also provide a basis for estimating what proportion of the retired population may be expected to remain alive at the end of a particular number of years in the future. The chances of survival for 5, 10, 15 and 20 years for retired individuals are given in table 2. According to these figures, from a group of 1,000 retired male employees at age 65, 898 will survive at least 5 years, 739 at least 10 years, 536 at least 15 years, and 319 at least 20 years. Of female age annuitants at age 65, 504 will be alive 20 years later.

Life expectancy figures are averages for large groups. The future lifetime of a particular individual may be longer or shorter than the life expectancy for his age group. Under the railroad retirement system, there have been many who have received benefits for 25 years or more.

Table 1

Life expectancies at ages 60-85 for railroad
retirement beneficiaries and for the general population

<u>Age^c</u>	<u>Railroad Retirement^a</u>					<u>U.S. Population^b</u>	
	<u>Age annuitants</u>		<u>Disability</u>			<u>Males</u>	<u>Females</u>
	<u>Males</u>	<u>Females</u>	<u>Annuitants</u>	<u>Spouses^d</u>	<u>Widows</u>		
60	19.8	23.9	14.9	24.0	22.2	19.1	22.9
61	19.0	22.9	14.3	23.1	21.4	18.3	22.0
62	18.2	22.1	13.8	22.3	20.5	17.6	21.3
63	17.4	21.3	13.3	21.5	19.8	16.9	20.5
64	16.6	20.5	12.7	20.7	19.0	16.2	19.7
65	15.8	19.6	12.2	19.9	18.3	15.6	18.9
66	15.1	18.8	11.6	19.1	17.6	14.9	18.2
67	14.4	18.0	11.2	18.4	16.9	14.3	17.4
68	13.7	17.2	10.7	17.6	16.2	13.6	16.7
69	13.0	16.4	10.2	16.9	15.5	13.0	16.0
70	12.3	15.7	9.7	16.2	14.8	12.4	15.3
71	11.7	14.9	9.2	15.4	14.2	11.8	14.6
72	11.1	14.2	8.8	14.7	13.5	11.3	13.9
73	10.5	13.5	8.4	14.1	12.9	10.7	13.2
74	9.9	12.8	8.0	13.4	12.3	10.2	12.6
75	9.4	12.1	7.6	12.7	11.7	9.7	11.9
76	8.9	11.4	7.2	12.1	11.1	9.1	11.3
77	8.4	10.8	6.9	11.5	10.5	8.6	10.7
78	7.9	10.1	6.5	10.8	9.9	8.2	10.1
79	7.4	9.6	6.1	10.2	9.4	7.7	9.5
80	7.0	9.0	5.8	9.6	8.9	7.2	8.9
81	6.6	8.5	5.5	9.1	8.4	6.8	8.4
82	6.2	8.0	5.3	8.6	7.9	6.4	7.8
83	5.8	7.5	5.0	8.0	7.4	6.0	7.3
84	5.5	7.0	4.7	7.6	6.9	5.6	6.8
85	5.1	6.6	4.4	7.1	6.5	5.2	6.3

^a Based on experience between anniversaries of retirement in 1994 and 1997 for all annuitants.

^b U.S. Life Tables for 1995 from Table 6-3, Volume II, Section 6 of the Vital Statistics of the United States Public Health Service, U.S. Department of Health and Human Services.

^c For railroad retirement data, age basis is age nearest birthday at beginning of policy year; for U.S. population data, age basis is exact age.

^d About 96 percent of spouses are female.

Table 2

Chances of survival for specified periods,
by age and category of railroad retirement beneficiary

<u>Age^a</u>	<u>Number alive per 1,000 after</u>				<u>Number alive per 1,000 after</u>			
	<u>5 years</u>	<u>10 years</u>	<u>15 years</u>	<u>20 years</u>	<u>5 years</u>	<u>10 years</u>	<u>15 years</u>	<u>20 years</u>
	<u>Male age annuitants</u>				<u>Female age annuitants</u>			
60	945	849	699	507	965	908	818	680
65	898	739	536	319	941	848	705	504
70	823	597	355	155	901	749	536	306
75	725	431	188	50	831	595	339	136
	<u>Spouses</u>				<u>Widows</u>			
60	957	893	800	673	947	863	749	603
65	933	836	703	523	911	791	637	453
70	896	753	560	341	869	699	497	279
75	841	625	381	159	805	572	322	122
	<u>All disability annuitants</u>							
60	842	668	476	292				
65	793	566	346	171				
70	714	437	215	77				
75	612	302	107	24				
	<u>Disability annuitants at retirement</u>				<u>Disabled annuitants disabled 5 or more years</u>			
45	919	850	772	658	945	875	794	677
50	906	822	701	556	925	840	716	568
55	851	726	576	411	908	774	614	438
60	851	675	482	295	852	676	482	295
65	b	b	b	b	793	566	346	171
70	b	b	b	b	714	437	215	77
75	b	b	b	b	612	302	107	24

^a Age nearest birthday approximates exact age.

^b Not applicable. Disability annuities not awarded on or after 65th birthday.